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May 24, 2005

Lance Shaw
Compliance Project Manager
02-AFC-4C
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: PETITION FOR AMENDMENT: WALNUT ENERGY CENTER AUTHORITY, THE WALNUT ENERGY CENTER - CONDITION OF CERTIFICATION SOIL & WATER-5

Dear Mr. Shaw:

Condition of Certification Soil & Water-5 for the Walnut Energy Center (WEC) as amended, identifies the project's water supply and the amount of water that may be used. Specifically, this condition requires that recycled water be used by the WEC once recycled water is available to the WEC from the City of Turlock's wastewater treatment plant. The condition also provides that poor quality groundwater may be used as a bridge supply, until the recycled water is available to the WEC, and as a back-up water supply in the event recycled water is temporarily unavailable. The condition also states that groundwater will be supplied from one of two groundwater wells (one operating, one as a 100% redundant back-up) located on either the WEC project site or the TID equipment storage area on South Washington Road.

The project owner, the Walnut Energy Center Authority (WECA), has drilled the first groundwater well located on the WEC project site. Unfortunately, analysis of the test results from the location selected indicate that the well site has low productivity and can only meet 50% of the WEC's water demands, compared to 100% of its water needs, as originally anticipated. The low productivity and correspondingly low aquifer hydraulic conductivity of the well reflect unanticipated and unforeseeable local variability of the aquifer in the area.

Given these unforeseen, localized problems with the original well location, WECA proposes in this Amendment to obtain more flexibility through modification of the language of Condition of Certification Soil & Water-5 by removing the requirement that two 100% wells be developed, and instead allow WECA to develop the number of wells it needs, at the capacities necessary to serve the WEC project. However, consistent with Condition of Certification Soil & Water-5, the total volume of water used by the project would not exceed two million gallons per day or 1800 acre feet per year.

WECA also proposes to expand the options for where the wells may be located. Condition of Certification Soil & Water-5 currently limits the location of the wells to the 18 acre WEC project site (the "WEC project site") or the Turlock Irrigation District's South Washington Road equipment storage area, located immediately adjacent to its Walnut Peaker Plant and substation on South Washington Road (the "South Washington" site). WECA would retain the option of locating two wells on the South Washington site.[1] However, WECA seeks approval for the option of locating the wells on the 69 acre parcel on which the WEC project is located, rather than being limited to the 18 acre WEC project site.

As stated above, the total amount of groundwater used by the project as specified in Condition Soil & Water-5 would not change (two million gallons per day or 1800 acre feet per year), regardless of the number of wells developed. Similarly, the wells would continue to utilize the same poor quality groundwater from the upper aquifer, as approved by the CEC.

To present a worst-case scenario analysis, WECA considered the possible effects of operating one 100% capacity well within the 69 acre parcel on the nearest existing (1) domestic wells and (2) irrigation wells. A 100% capacity well was identified as a worst case since no well or combination of wells could exceed the potential effects of a 100% capacity well.

To conduct the analysis, the WECA created a well plan "grid" (see Figure 1). For purposes of analysis, the WECA's grid identified 322 potential well locations on the 69 acre parcel. Each well location is 100 feet apart from the other. The potential well located closest to each existing domestic and irrigation well within an approximately 1.5 mile radius of the 69 acre parcel was identified. The potential drawdowns experienced at the existing domestic and irrigation wells within the approximately 1.5 mile radius of the 69 acre parcel were then calculated using the potential drawdown associated with each domestic and irrigation well's

[1] Soil &Water-5, as recently amended, contemplates two 100% capacity wells located either on the WEC project site or the TID equipment storage area on South Washington Road (the "South Washington" site). Only one of the two groundwater wells would be operated at one time. The other would serve as a 100% redundant backup. The Commission's prior approval confirmed that there are no significant impacts associated with locating the wells at the South Washington site and thus no need to reanalyze locating the wells at that site.

WECA does not want to foreclose the possibility of using the South Washington site. As a factual matter, consistent with WECA's policies of keeping the Commission fully informed of its intent, WECA does not intend at this time to actively pursue development of the two 100% capacity wells on the South Washington site. Despite this present intent, WECA nevertheless wants to preserve the option to build the 100% capacity wells at the South Washington site if circumstances change in the future.

nearest theoretical well on the grid. The potential drawdowns from the existing domestic and irrigation wells are included in Table 1.

The domestic well located nearest the 69 acre parcel is located to the southeast on Ruble Road (the "Ruble Road Domestic Well"). WECA analyzed the potential effects of one theoretical 100% capacity well location on the 69 acre parcel located closest to the Ruble Road Domestic Well. This analysis represents the worst case for the existing domestic wells given the distance of the potential well to the Ruble Road Domestic Well.

The existing irrigation well closest to the 69 acre parcel is located to the northwest on West Main Street (the "West Main Street Irrigation Well"). WECA analyzed the potential effects of one theoretical 100% capacity well location on the 69 acre parcel located closest to the West Main Street Irrigation Well. This analysis represents the worst case for the existing irrigation wells given the distance of the potential well to the West Main Street Irrigation Well.

The results indicate that the potential, worst-case drawdowns in neighboring wells using the conservative assumption of one 100% capacity well as close as possible to the closest domestic and irrigation wells would not significantly impact their usability. The maximum potential drawdown at the Ruble Road Domestic Well with the closest 100% capacity theoretical WEC project pumping wells is 7.1 feet. If the final well locations selected after drilling test wells are located farther away from the Ruble Road Domestic Well, the potential impacts would be even less. Moreover, the Ruble Road Domestic Well has a screened interval 15 feet long which begins some 40 feet below the average water level and approximately 30 feet below the drought condition water level. Accordingly, a potential drawdown of 7.1 feet would not present any potentially significant negative impact on the production of that well.

Similarly, the maximum potential drawdown at the West Main Street Irrigation Well with one theoretical 100% capacity WEC project pumping well is 7.3 feet. And, as with the domestic well, if the final well locations selected after drilling test wells are located farther away from the West Main Street Irrigation Well, the potential impacts would be even less. The West Main Street Irrigation Well has a screened interval nearly 200 feet long which begins some 80 feet below the average water level and approximately 70 feet below the drought condition water level. As a result, a potential 7.3 foot drawdown would not present any potentially significant negative impact on the production of that well.

The impacts described above are less than significant. Moreover, the potential impacts are also likely overstated; that is the actual impacts will likely be even less because WECA employed several conservative modeling assumptions with regards to conductivity.

Consistent with Amendment #2 to the WEC project filed on September 3, 2004, the program *WTAQ* was used to calculate drawdown in the upper and shallow aquifers. An effective vertical hydraulic conductivity was used to represent this multi-aquifer system within the

program. The input values are listed in Table 2. The horizontal hydraulic conductivity was assumed to be 100 ft/d, which is based on the specific-capacity-derived hydraulic conductivity for the Modesto and Riverbank formations that are referenced in Table 3. However, the input values reflect a reduced conductivity to account for the fact that production wells generally are screened in the most transmissive aquifer intervals. The vertical hydraulic conductivity was assumed to be 0.055 ft/d. This vertical hydraulic conductivity was derived from the observed groundwater-level differential between the shallow and upper aquifers (Figures 4 through 9 of Appendix A of WEC Amendment #2, September 3, 2004). The specific storage was assumed to be 10^{-4} 1/ft, which is typical of Quaternary alluvial deposits (Morris and Johnson, 1967). The specific yield was assumed to be 10 percent, which is the value derived by the California Department of Water Resources (2003).

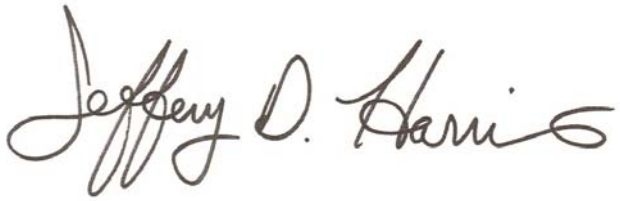
The computed drawdown is slightly sensitive to the parameter values used in the computer program *WTAQ*. This is indicated in Table 4, which lists the results of using alternative aquifer-parameter values in the program. The computed drawdown is listed with the parameter values perturbated from the baseline parameter values listed in Table 2. Potential drawdowns within the upper aquifer are listed both for the parameter values equal to 50 percent of the baseline value and for the parameter values equal to 200 percent of the baseline value. The results indicate that, even when a large range of parameter values are considered, the potential drawdowns within the upper aquifer are insignificant with the alternative parameter values.

This Amendment is consistent with the requirements of Section 1769 of the California Energy Commission regulations. The information presented herein provides a complete description of the proposed modifications, including the new language for the affected Condition Soil & Water-5, as required by Section 1769(a)(1)(A). The Amendment also includes a discussion of the necessity of the proposed changes, per Section 1769(a)(1)(B). The Amendment is based on information that was not known during the time of the certification, and it does not undermine the assumptions, rationale, findings, or other bases for the final decision, per Sections 1769(a)(1)(C) and 1769(a)(1)(D).

As discussed above, the modification of the Soil & Water-5 condition language does not have the potential to create any potentially significant impacts on the environment and makes the project consistent with all applicable LORS, per Sections 1769(a)(1)(E) and 1769(a)(1)(F). The Amendment will not adversely affect the public, per Section 1769(a)(1)(G). In addition, the proposed modification will have no adverse effects on nearby property owners, per Section 1769(a)(1)(H) and 1769(a)(1)(I).

Should you have questions, please do not hesitate to contact Susan Strachan at 530-220-7038 or me at 916-447-2166.

Sincerely,



Jeffery D. Harris
Ellison, Schneider, and Harris LLP
Attorneys for WECA

Attachments

SOILS & WATER-5: The project's water use shall be limited as described below. For purposes of this condition, the bridge period is defined as that period of time between the commencement of commercial operation of the WEC and the earlier of December 31, 2006 or when recycled water from the City of Turlock's wastewater treatment plant (WWTP) is available to the WEC.

Water for construction purposes shall consist of groundwater provided from the existing TID well at the Walnut substation. Potable water may also be used for construction for the purpose of hydrostatic testing and flushing of equipment, pipes and tanks; provided however, the project owner shall minimize the use of potable water for this purpose to the maximum extent feasible.

During the bridge period, water used for cooling and steam cycle make-up shall consist of poor quality groundwater from the upper aquifer supplied from either one ~~of two~~or more groundwater wells located on ~~either~~ the 69-acre parcel that includes the 18-acre WEC project site (the "69 Acre Parcel") or ~~the~~ two 100% wells located on the TID equipment storage area on South Washington Road (the "South Washington" site). Only ~~one of the two~~ groundwater wells on either the 69 Acre Parcel or the South Washington Site may operate at one time (with the other well location serving as a 100 percent redundant backup). Total combined ~~G~~groundwater production from all of the wells on both the 69 Acre Parcel and the South Washington site shall not exceed two million gallons per day or 1,800 afy.

Water for operational and landscaping purposes used after the bridge period shall consist of recycled water from the City of Turlock WWTP and shall not exceed 1,800 afy. Water for domestic needs ~~after the bridge period~~ shall consist of potable water provided by the City of Turlock and shall not exceed 3 afy. Groundwater from the wells to be located either on the WEC project site or the South Washington site may also be used for back-up to the recycled water supply in the event of a short-term disruption in service and shall not exceed 51 afy. Groundwater from the wells to be located either on the ~~WEC project site~~ 69 Acre Parcel or the South Washington site may also be used in the event that recycled water is not available to the project subject to the provisions of **SOILS&WATER-6**. Alternative water use shall be calculated using a 5-year rolling average.

Verification: The project owner shall notify the Commission no later than May 31, 2006, and in monthly compliance reports thereafter, as to the status of recycled water production by the City of Turlock's WWTP until the WEC is using tertiary treated, recycled water for its non-potable operational and landscaping requirements. This notice shall include information on the issues related to recycled water production, DHS approval for recycled water service and the expected availability of recycled water supplies to WEC. After recycled water

service is provided to WEC, the project owner shall report water use to the Commission as required by **SOILS&WATER-7**. Annual average water use shall be calculated using a 5-year rolling average of actual water use starting with the first year of operation. In the event of an interruption or reduction in recycled water service that requires the use of groundwater from the wells to be located either on the ~~WEC project site~~ 69 Acre Parcel or the South Washington site, the project owner shall notify the CPM, in writing, within 24 hours.

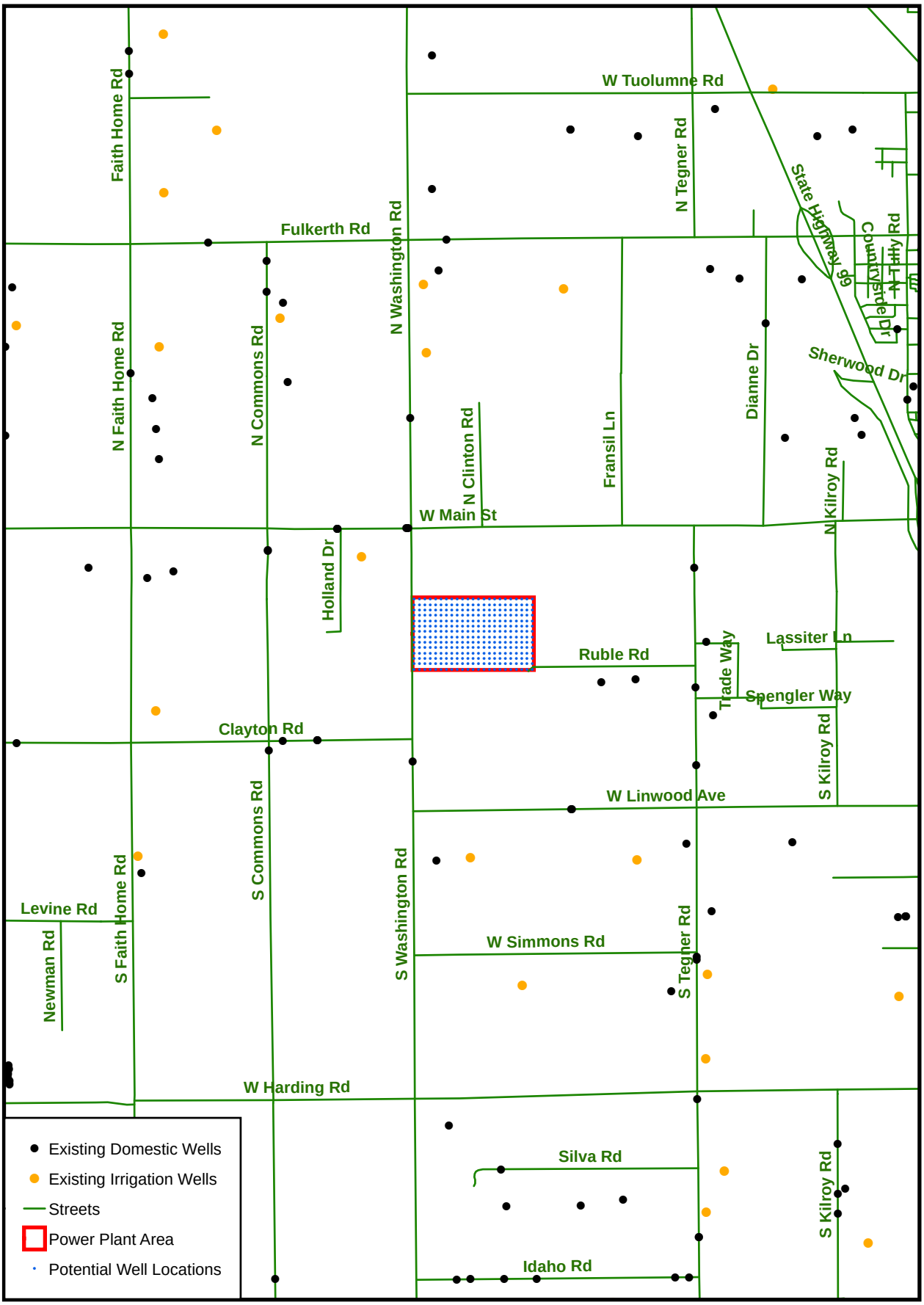


Figure 1 Potential Locations of Cooling-Water Supply Wells for Evaluation of Maximum Drawdown at Exisitng Domestic and Irrigation Wells

Table 1 Single Full-Production Well Scenario
Potential Drawdowns in Existing Private Wells in Immediate Area after 5 Years
(Feet)

Well Address	DWR File Number	X	Y	Certainty of Location	Completed Depth	Depth to Bottom of Lowest Screen	Depth to Top of Highest Screen	Completion Date	Distance from Closest Well (Feet)	Maximum Drawdown
Domestic Wells										
Turlock	21031	6451343	1996898	Approx	105	nd	nd	5/14/1969	5805.26	3.20
PO Box 625	21345	6451202	2004405	Approx	128	128	108	3/7/1977	5571.73	3.28
PO Box 1867	21483	6439829	2001920	Certain	73	73	63	9/10/1976	4505.77	3.78
Turlock	23000	6449737	2000611	Approx	127	124	113	7/15/1977	3231.65	4.57
3800 Ruble Rd	28121	6447786	1999865	Certain	76	75	60	2/18/1969	1303.42	7.14
1031 S Tegner Rd	29307	6449540	1999764	Certain	173	173	161	1/7/1978	3054.05	4.70
5213 W Main St	52841	6442879	2002712	Certain	83	nd	nd	3/3/1970	1933.36	5.89
5213 W Main St	53667	6442879	2002712	Certain	250	250	220	10/8/1979	1933.36	5.89
3515 Linwood Ave	64886	6449370	1996865	Certain	220	220	200	5/1/1987	4326.50	3.87
230 S Commons Rd	66757	6441586	2002301	Certain	73	73	63	4/12/1971	2862.98	4.84
Turlock	71008	6444719	1996553	Approx	250	250	225	1/26/1980	3554.43	4.33
836 N Faith Home Rd	83970	6439033	2005597	Certain	75	75	65	5/3/1973	6733.94	2.89
1307 N Commons Rd	90552	6441565	2007106	Certain	145	145	135	11/1/1973	6323.13	3.03
1500 Commons Rd	112000	6441564	2007681	Certain	190	140	120	7/7/1975	6846.34	2.85
5213 W Main St	153473	6442879	2002712	Certain	157	20	nd	2/23/1985	1933.36	5.89
5324 Clayton Ave	153475	6442510	1998784	Certain	nd	nd	nd	2/25/1985	2230.98	5.53
5525 Clayton Rd	191181	6441863	1998775	Certain	95	95	75	6/16/1986	2782.35	4.91
4800 W Main St	219045	6444197	2002719	Certain	118	118	98	9/4/1984	1315.25	7.10
PO Box 1803	226551	6439438	2005142	Approx	125	125	105	10/6/1981	6134.76	3.09
1230 S Commons Rd	227714	6441604	1998594	Certain	91	91	71	10/21/1981	3096.64	4.67
3928 W Linwood Ave	243208	6447226	1997510	Certain	145	145	85	9/29/1982	2696.21	4.99
1001 Dianne Rd	243225	6450845	2006532	Certain	113	113	93	10/28/1982	6714.65	2.90
1101 Commons Rd	245936	6441955	2005432	Certain	112	112	97	8/27/1982	4660.85	3.71
424 S Tegner Rd	245992	6449512	2001985	Certain	175	175	155	5/5/1982	3061.32	4.70
3631 Buble Rd	250458	6448421	1999914	Certain	245	245	225	5/24/1988	1925.09	5.90
1318 S Washington Rd	284295	6444276	1998398	Certain	228	228	208	9/20/1988	1710.43	6.30
601 N Washington Rd	326842	6444231	2004767	Certain	235	235	215	8/16/1989	3360.34	4.47
5326 Clayton Ave	346760	6442504	1998784	Certain	174	174	154	8/15/1990	2236.24	5.52
3925 W Linwood Ave	475261	6447239	1997510	Certain	265	265	nd	11/3/1995	2699.50	4.98
4813 W Main St	498316	6444161	2002718	Certain	237	237	nd	9/22/1992	1318.63	7.09
1100 N Faith Home Rd	516467	6439507	2004561	Certain	180	180	nd	12/12/1997	5742.31	3.22
3800 S Kilroy Rd	580313	6452185	1990370	Certain	250	250	nd	6/13/1995	11273.22	1.81
1424 S Tegner Rd	704833	6449552	1998327	Certain	220	220	nd	5/29/1998	3528.36	4.35
Turlock	718337	6441866	2006901	Approx	240	240	nd	7/23/1999	6010.58	3.13
Irrigation Wells										
5213 W Main St	10124	6443325	2002187	Approximate	300	300	108	//0	1253.04	7.28
4800 Fulkerth Rd	22995	6444479	2007252	Approximate	294	294	180	7/11/1977	5844.43	3.19
2419 Tegner Rd	33816	6449760	1994439	Approximate	399	389	160	6/15/1977	6536.38	2.96
	35522	6447084	2007160	Approximate	205	nd	nd	5/25/1977	5781.19	3.21
4207 W Simmons Rd	46290	6446316	1994242	Approximate	492	492	80	2/7/1978	5865.65	3.18
1105 S Faith Home Rd	66746	6439499	1999331	Approximate	nd	nd	nd	5/6/1971	4868.76	3.60
5672 Almaden Express	125355	6439565	2006091	Approximate	165	165	45	1/14/1975	6663.81	2.92
PO Box 1803	226552	6444531	2005978	Approximate	162	162	112	10/13/1981	4570.55	3.75
1419 N Commons Rd	433901	6441813	2006616	Approximate	395	395	nd	10/31/1991	5773.69	3.21

nd indicates data not available from well driller's report

Table 2 Parameter Values Used in Drawdown Calculation

Parameter	Value
Horizontal hydraulic conductivity	100
Vertical hydraulic conductivity	0.055
Specific storage	0.0001
Specific yield	0.1
Aquifer thickness	152.5
Pumping well depth to top of screen	50
Pumping well depth to bottom of screen	120
Shallow-aquifer monitoring well depth to top of screen	10
Shallow-aquifer monitoring well depth to bottom of screen	11
Shallow-aquifer monitoring well distance	Variable
Upper-aquifer monitoring well depth to top of screen	106
Upper-aquifer monitoring well depth to bottom of screen	107
Upper-aquifer monitoring well distance	Variable

Table 3 Average Hydraulic Conductivity within the Turlock Groundwater Basin (Feet per Day)

Hydrogeologic Unit	Numder of Specific-Capacity Tests	Average Horizontal Hydraulic Conductivity
Modesto Formation	17	407.8
Riverbank Formation	109	86.7
Turlock Lake Formation	175	46.5
Mehrten Formation	61	22.7

Table 4 Sensitivity of Drawdown to Aquifer-Parameter Values (Feet)

Parameter	Drawdown for Baseline		Drawdown with Reduced Parameter Value		Drawdown with Increased Parameter Value	
	Distance 0.5 Miles	Distance 2.0 Miles	Distance 0.5 Miles	Distance 2.0 Miles	Distance 0.5 Miles	Distance 2.0 Miles
Horizontal hydraulic conductivity	5.0	1.9	8.4	2.5	3.0	1.3
Vertical hydraulic conductivity	5.0	1.9	5.2	2.0	4.9	1.9
Specific storage	5.0	1.9	5.1	2.0	4.9	1.8
Specific yield	5.0	1.9	5.7	2.5	4.4	1.4